

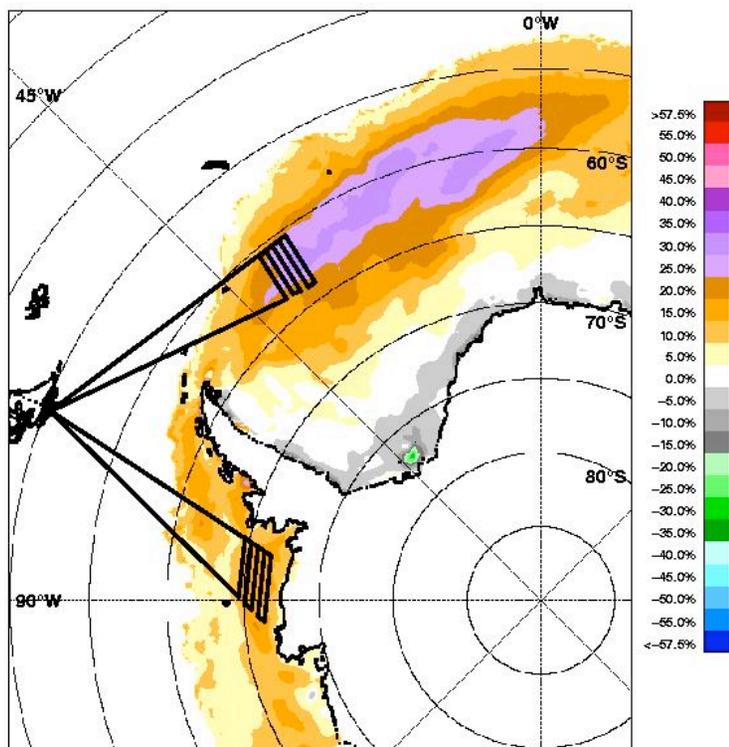
# Antarctic AMSR-E Sea Ice Validation

## P3 Aircraft Mission- August 23-September 15, 2002

### Sites of Underflights:

- (a) Weddell Sea consolidated ice area (near 45°W).
- (b) Bellingshausen Sea consolidated ice area (near 90°W)
- (c) Coastal/polynya regions.
- (d) Ice edge/MIZ regions

Staging station is at Punta Arenas, Chile



Difference map of ice concentrations (B-T)

### Aircraft Sensors and Parameters

**PSR/AESMIR** – for radiometric calibration and estimates of ice concentration, ice type and temperature

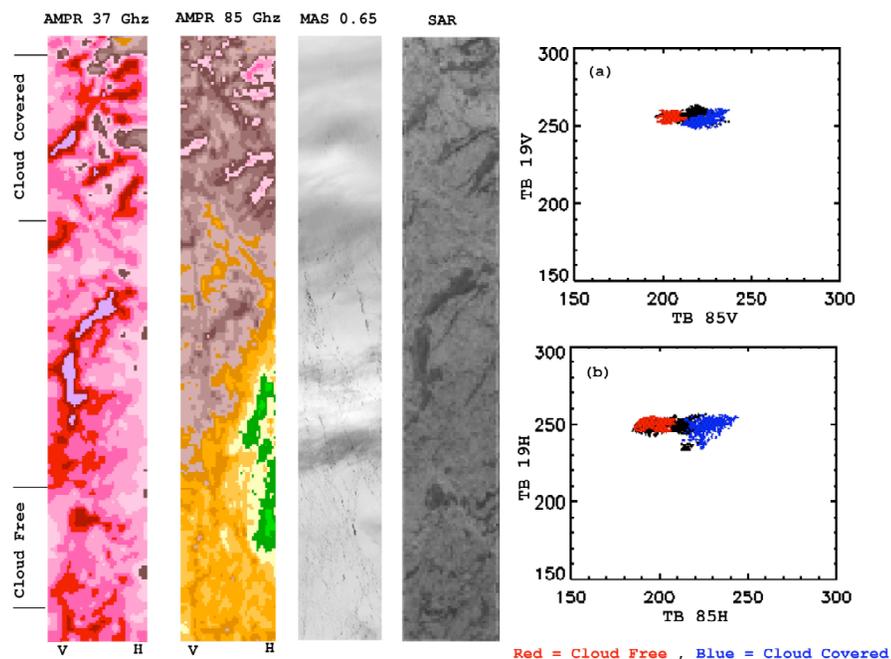
**Topographic Lidar** – for ice freeboard and surface topography

**THOR (Lidar)** – for snow and ice thickness

**AMMR** – for radiometric calibration

**2D-Star** – for ice type and ice thickness

**D2P** – for snow thickness and freeboard



Aircraft radiometer observations at 37 and 85 GHz and co-registered visible and SAR data. Scatter plots are for cloudy and cloud free areas.

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## In situ and High-Resolution Observations

### Ship Based In Situ Measurements:

Passive microwave radiometer observations of different surface and ice types

Snow profiles of temperature, granularity, salinity and liquid content

Ice thickness, salinity, and conductivity

Radiosonde, surface air temperature & wind velocity



### High Resolution Satellite Sensors

Modis (terra & aqua) – visible and infrared for ice concentration and ice temperature

Landsat 7 – visible for ice concentration

Envisat and Radarsat SAR -for ice type & concentration

#### Figure Caption:

- Ice concentration from SSM/I
- Surface temperature from AVHRR
- Ice distribution from SAR in inset area in (a)

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